



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel: (513) 632-5200
Fax: 513 632-5246

D119-646-041
Job Sheet 190016



Part No: D119-646-041

Job Qty: 1 ea

Part Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/4/19

Job Tracking No:

Due Date: 4/5/19

Created By: Jesse White

Type: Stock

Description:

Note: DWG IIN-D119-646 REV D, D3887-041 REV E SHEETS 1,2,5,7,8,10,11 IPP RevA: New issue DD verified by:EC IPP rev B 10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05 (DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:E 17.05.19 as per dwg D3887 rev.e DD verf:JFS

Ship Via:

Bill of Materials



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 513 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S150699



Part: D119-646-041

Job No: 190016

Serial No/Batch: S150699

Revision:

Inspector:

Exp Date:

Instructions: FAA STC SR02024SE 18/10/17, TAA STC LoA P.

P.T.O.

P.T.O.

NCR: 19-7257

Job Routing									
Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		4/5/19	0.00	0.00	Start Up Skid tubes-1		M66
110	Skid tubes	1 pcs		4/5/19	0.00	0.25	Skid tubes-1		DR
120	Hand Finish	1 pcs		4/5/19	0.00	0.83	Hand Finish1		19-02-07
121	QC	1 pcs		4/5/19	0.00	0.00	QC7-1		BE
122	QC	1 pcs		4/5/19	0.00	0.00	QC5		BE
130	Skid tubes	1 pcs		4/5/19	0.00	1.54	Skid tubes-1		M66
135	QC	1 pcs		4/5/19	0.00	0.00	QC5		BE
140	Skid tubes	1 pcs		4/5/19	0.00	1.47	Skid tubes-1 M66 #1-2		1/1
150	QC	1 pcs		4/5/19	0.00	0.00	QC5		BE
160	Skid tubes	1 pcs		4/5/19	0.00	1.61	Skid tubes-1		BE
170	QC	1 pcs		4/5/19	0.00	0.00	QC5		19-03-04
180	QC	1 pcs		4/5/19	0.00	0.00	QC10		19-03-04
190	Hand Finish	1 pcs		4/5/19	0.00	0.83	Hand Finish2		19/03/05
200	Powdercoat	1 pcs		4/5/19	0.00	0.22	Powdercoat1		19-03-06
210	QC	1 pcs		4/5/19	0.00	0.00	QC3		19-3-7
220	Hand Finish	1 pcs		4/5/19	0.00	3.83	Hand Finish4		19-3-3
240	Hand Finish	1 pcs		4/5/19	0.00	2.00	Hand Finish4		19-4-17
245	QC	1 pcs		4/5/19	0.00	0.00	QC5		JUL 08 2019
255	DC	1 pcs		4/5/19	0.00	0.00	DC		
260	Packaging	1 pcs		4/5/19	0.00	0.00	Packaging3-1		SMF
270	QC21-FG	1 Ea		4/5/19	0.00	0.00	QC21		JUL 08 2019

Part Op 110 - 1- inspect Mat'L D2500-1-190 for damage 2-Cut tube to length as per dwg D3887 (154.6") 3- Ensure squareness of
Descriptions: ends and scribe batch#

130 - 1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes*** 5- Deburr, blow out chips from inside of tube. 6- Bond web in place as per Dwg D3887 & QSI 015. A/R 5128386 Exp 03-07-19

140 - 1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning*** 2- Cut FWD end of tube as per dwg D3887.***Verify measurement*** 3- Buff out marks left from bending 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208" 5- Open FWD saddle holes to finished size as per dwg D3887 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement) 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size. 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg. 9- C'sink FWD cap hole as per detail "C" 10- Drill holes for wearpads using DT8931, open to 0.297". 11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr. 12- Deburr and blow out chips from inside of tube.

160 - NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDLING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/R 2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. 3-Counterbore 5/16" x 0.750" deep as per Dwg D3887. 4- Deburr & Scribe batch # on Aft end of tube.

170 - TEST FIT USING FIXTURE DT10091.

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - ***MASK AREA SHOWN ON SHEET 7, NOTE 9*** START TIME: 8:10 OVEN TEMPERATURE: 320 FINISH TIME: 8:40

220 - 1-Install inserts as per Dwg D3887.

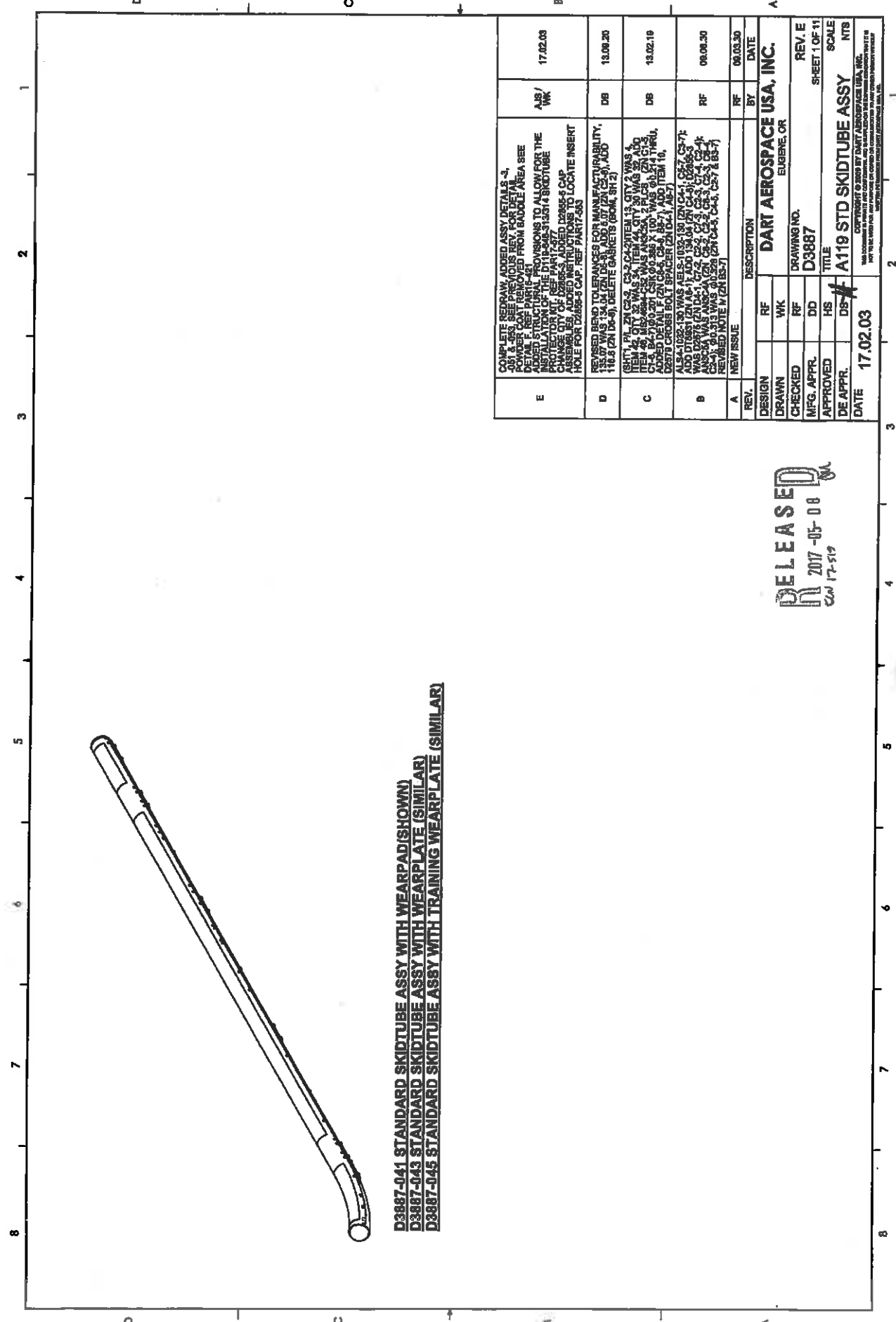
240 - 1-Install inserts as per Dwg D3887. 2-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 516345 Sikaflex expire date: 19-4-27 3-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: M13 8543 4 -Inspect for foreign objects as per QSI 024 5 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 516345 Sikaflex expire date: 19-4-27 6 -Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 516345 Sikaflex expire date: 19-4-27 7- Wing Walk as per dwg and QSI Batch: 5163430

255 - Photocopy bluefile & type labels per PPP D119-646-041 CHG005

DAS
15
9-89

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -1" Beam Tube 4"	1 pcs (1 ea)	90-Start up Operation	009259
D3885-1	Standard Web	1 pcs (1 ea)	130-Skidtubes	5112963
D2579	Crossbolt Spacer	2 pcs (2 ea)	140-Skidtubes	5083677
D2855-5	Cap	1 pcs (1 ea)	160-Skidtubes	5047840
D3681-1	Spacer	12 pcs (12 ea)	160-Skidtubes	500297
D3903-1	Spacer	12 pcs (12 ea)	160-Skidtubes	5116457
ALS4-1032-130	Rivnut	33 Ea (33 ea)	240-HandFinish	5144956
ALS4-1032-225	Rivnut	1 Ea (1 ea)	240-HandFinish	5057257
AN3C4A	Bolt	6 Ea (6 ea)	240-HandFinish	5059809
AN3C5A	Bolt	26 Ea (26 ea)	240-HandFinish	5152638
D2855-3	Cap	1 pcs (1 ea)	240-HandFinish	5149186
D3492-5	Plug	24 pcs (24 ea)	240-HandFinish	5126403
D3672-1	Washer, Phenolic	2 pcs (2 ea)	240-HandFinish	5137514
D3847-1	Wearpad	5 Ea (5 ea)	240-HandFinish	5164008
D3847-11	Wearpad	1 Ea (1 ea)	240-HandFinish	5142046
MS24694-C52	Screw	2 Ea (2 ea)	240-HandFinish	5136646
NAS1149C0332R	Washer	32 Ea (32 ea)	240-HandFinish	5067269
NAS1611-005	O-Ring	24 Ea (24 ea)	240-HandFinish	5142069
				5150236
Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-190	1	43	0
130-Skidtubes	D3885-1	1	10	0
140-Skidtubes	D2579	2	124	0
160-Skidtubes	D2855-5	1	55	0
	D3681-1	12	240	0
	D3903-1	12	187	0
240-HandFinish	ALS4-1032-130	33	10,022	0
	ALS4-1032-225	1	709	0
	AN3C4A	6	1,817	0
	AN3C5A	26	1,119	0
	D2855-3	1	33	0
	D3492-5	24	98	0
	D3672-1	2	1,943	0
	D3847-1	5	63	0
	D3847-11	1	16	0
	MS24694-C52	2	94	0
	NAS1149C0332R	32	5,027	0
	NAS1611-005	24	241	0
Part Specifications				
Specifications could not be found.				

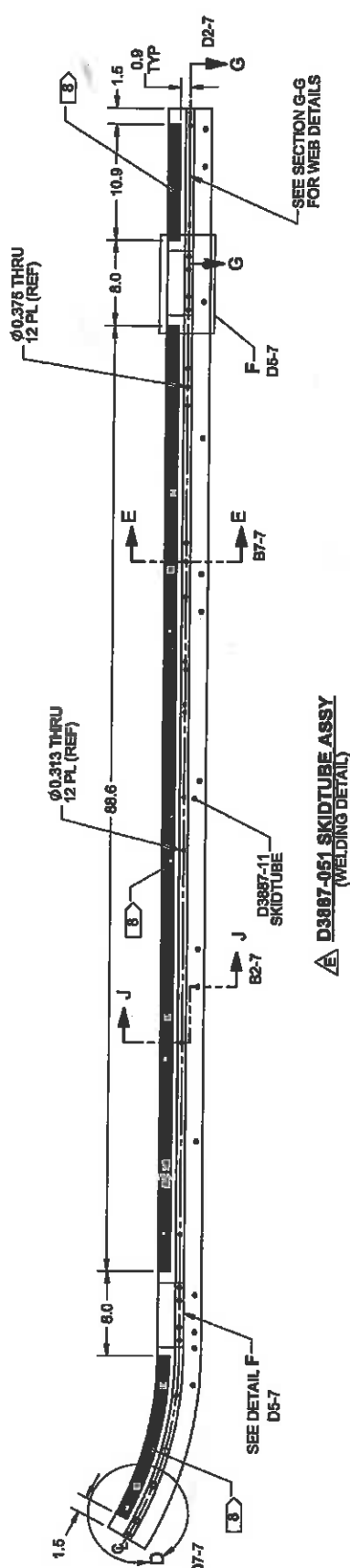
Plex 2/4/19 10:45 AM dart.white.jesse



2017-05-08
CN 17-519

DESIGN	RF	DART AEROSPACE USA, INC.		
DRAWN	WK	EUGENE, OR		
CHECKED	RF	DRAWING NO.	REV. E	
MFG. APPR.	DD	D3887	SHEET 1 OF 11	
APPROVED	HS	TITLE	SCALE	
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS	
DATE	17.02.03	COPYRIGHT © 2003 BY DART AEROSPACE USA, INC. ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPERTY OF DART AEROSPACE USA, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE USA, INC.		

ITEM	QTY -001	P/N	DESCRIPTION
1	X	D3887-051	SKIDTUBE ASSY
2	2	D2579	CROSS BOLT SPACER
3	12	D3881-1	CROSS BOLT SPACER
4	1	D3885-1	STANDARD WEB
5	1	D3887-11	SKIDTUBE
6	12	D3883-1	CROSS BOLT SPACER
7	30	AL54-1032-130	INSERT



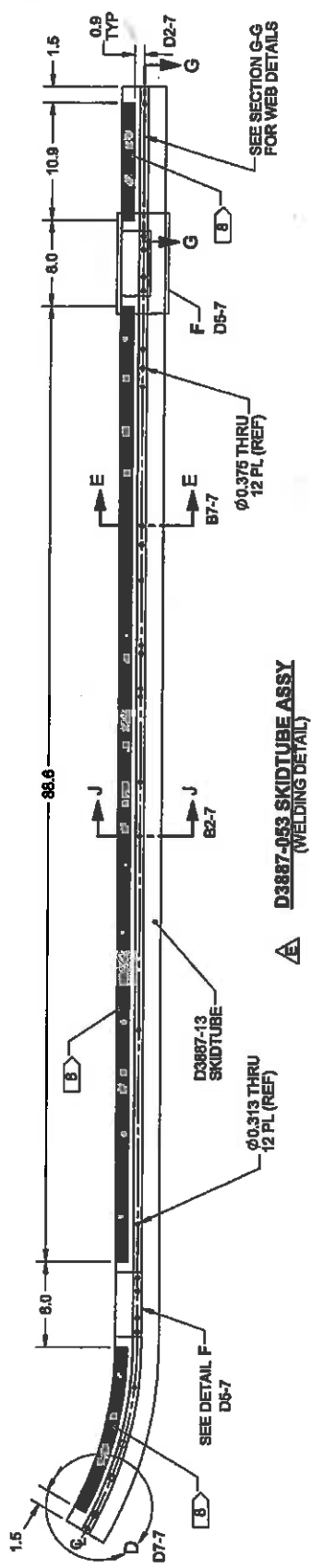
- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
 - 7) WEIGHT: N/A
 - 8) AS INDICATED TO 0.60 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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2017-05-08

DESIGN	RF	RF	DART AEROSPACE USA, INC.
DRAWN	VK	VK	EUGENE LOR
CHECKED	RF	RF	DRAWING NO. D3887
MFG. APPR.	DD	DD	REV. E
APPROVED	HS	HS	SHEET 5 OF 11
DE APPR.	DS	DS	TITLE A119 STD SKIDTUBE ASSY
DATE	17.02.03	DATE	SCALE NTS

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ITEM	QTY -553	P/N	DESCRIPTION
	X	D3847-083	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3881-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-13	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER



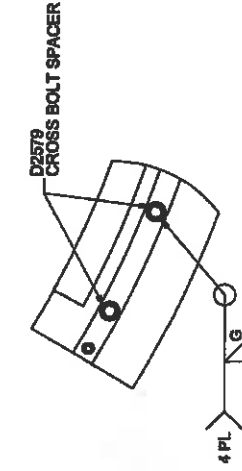
A D3887-053 SKIDTUBE ASSY
(WELDING DETAIL)

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
 - 7) WEIGHT: N/A
 - 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

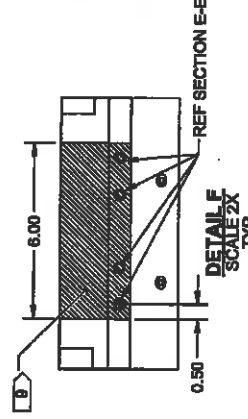
APPROVED

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2017-05-08

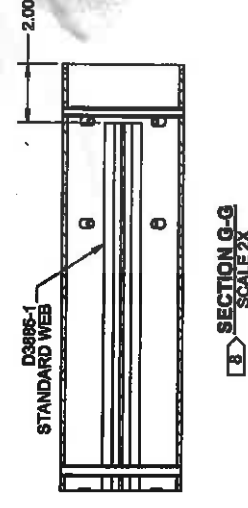
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CHECKED	RF	DRAWING NO.	D3887
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DE APPR.	DS	SCALE	NTS
DATE	17.02.03		



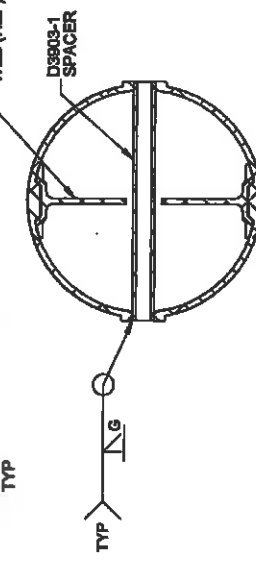
DETAIL D
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TYP



DETAIL E
SCALE 2X
TYP

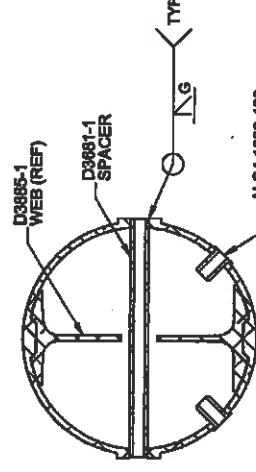


SECTION G-G
SCALE 2X
TYP



SECTION E-E
SCALE 5X
TYP

(FOR 12X Ø0.375 HOLES
PER SKIDTUBE)



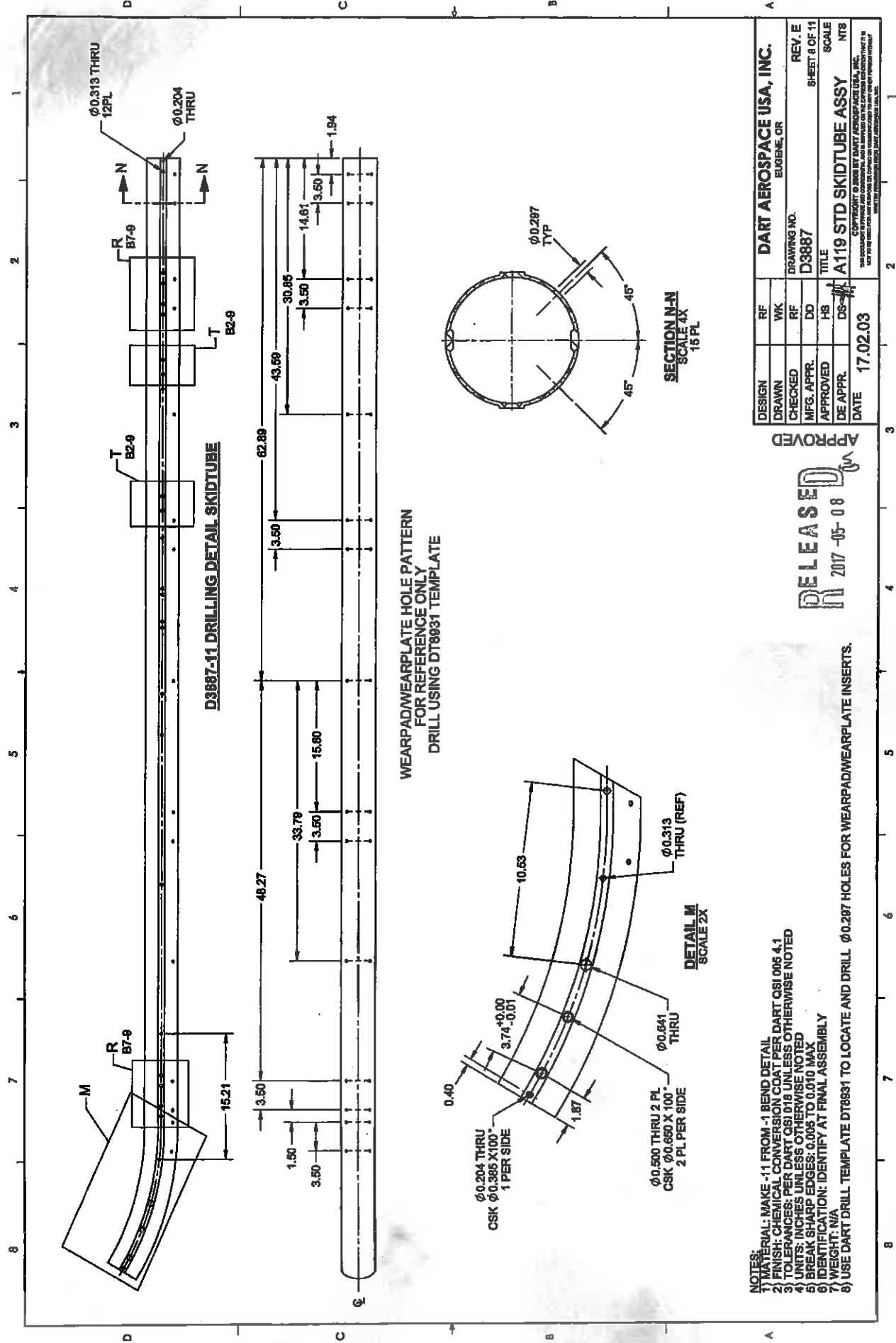
SECTION J-J
SCALE 5X
TYP

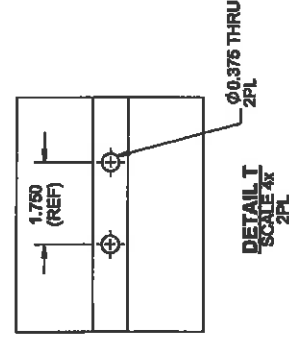
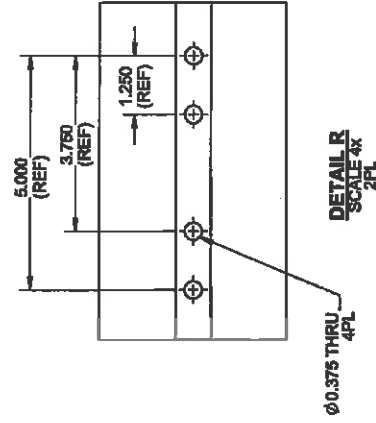
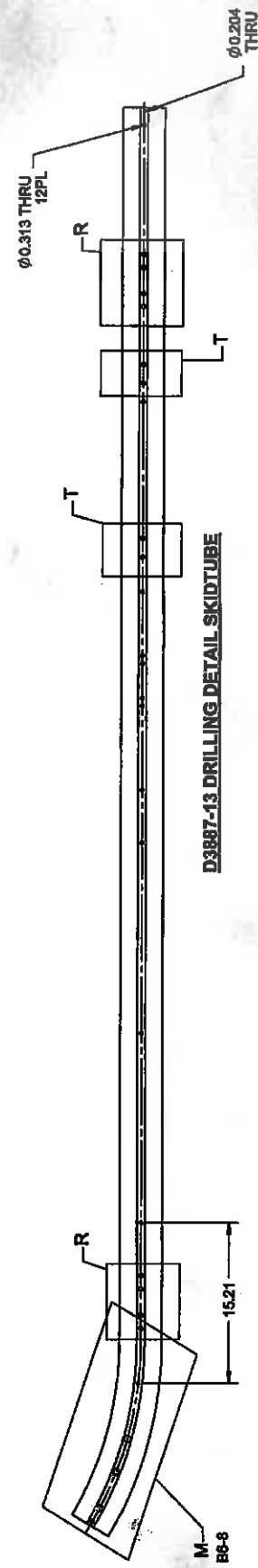
(FOR 12X Ø0.313 HOLES
PER SKIDTUBE)

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
 - 7) WEIGHT: N/A
 - 8) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-2471-281 ADHESIVE PER DART QSI 016 AFTER BENDING. ENSURE HOLES LINE-UP
 - 9) MASK THIS AREA AND DO NOT POWDER COAT
 - 10) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION E-E Ø0.375 HOLES ONLY:
 - i) CHAMFER HOLES Ø0.476 x 45°
 - ii) INSERT D3803-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
 - v) DEBURR HOLES
 - 11) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION J-J Ø0.313 HOLES ONLY:
 - i) CHAMFER HOLES Ø0.364 x 45° OR 0.060 DEEP x 45° (BOTH SIDES)
 - ii) INSERT D3881-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
 - v) WELD PER DART QSI 004
 - 12) WELD PER DART QSI 004

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2017-05-08

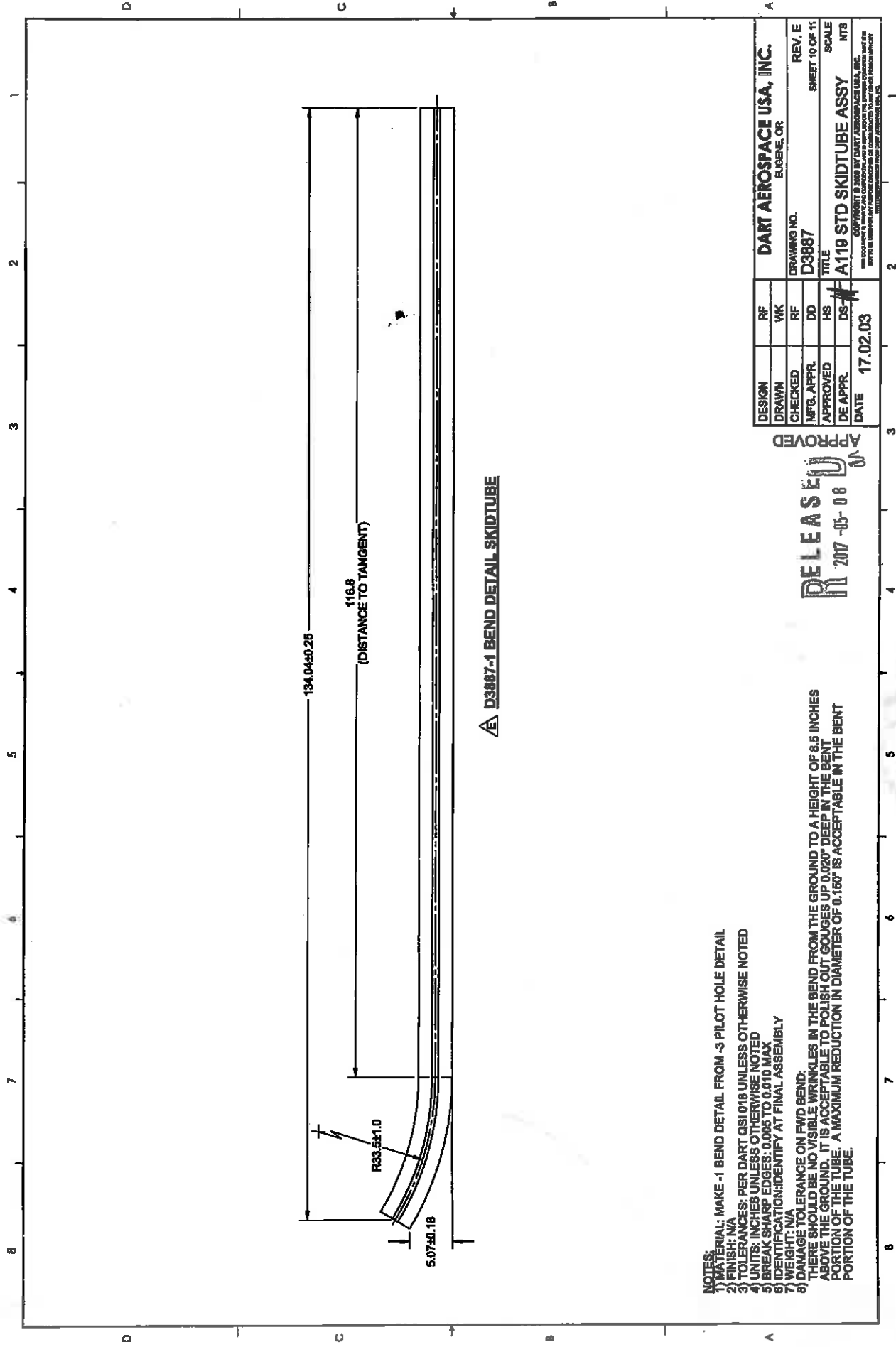
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APPROVED	RF	WK	RF	DD	HS	DS		
DATE	17.02.03							
DART AEROSPACE USA, INC.								
EUGENE, OR								
DRAWING NO.	D3887							
TITLE	A119 STD SKIDTUBE ASSY							
SCALE	NTS							
REV. E								
SHEET 7 OF 11								





NOTES:
1) MATERIAL: MAKE -13 FROM -1 SEND DETAIL
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 008 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.008 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
7) WEIGHT: N/A

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WVK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
INFG. APPR.	DD	D3887	SHEET 0 OF 11
APPROVED	H8	TITLE	SCALE
DATE	17.02.03	A119 STD SKIDTUBE ASSY	NTS

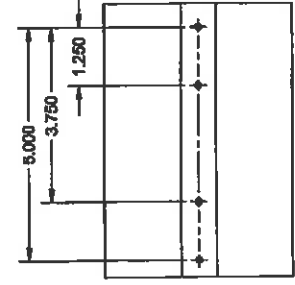
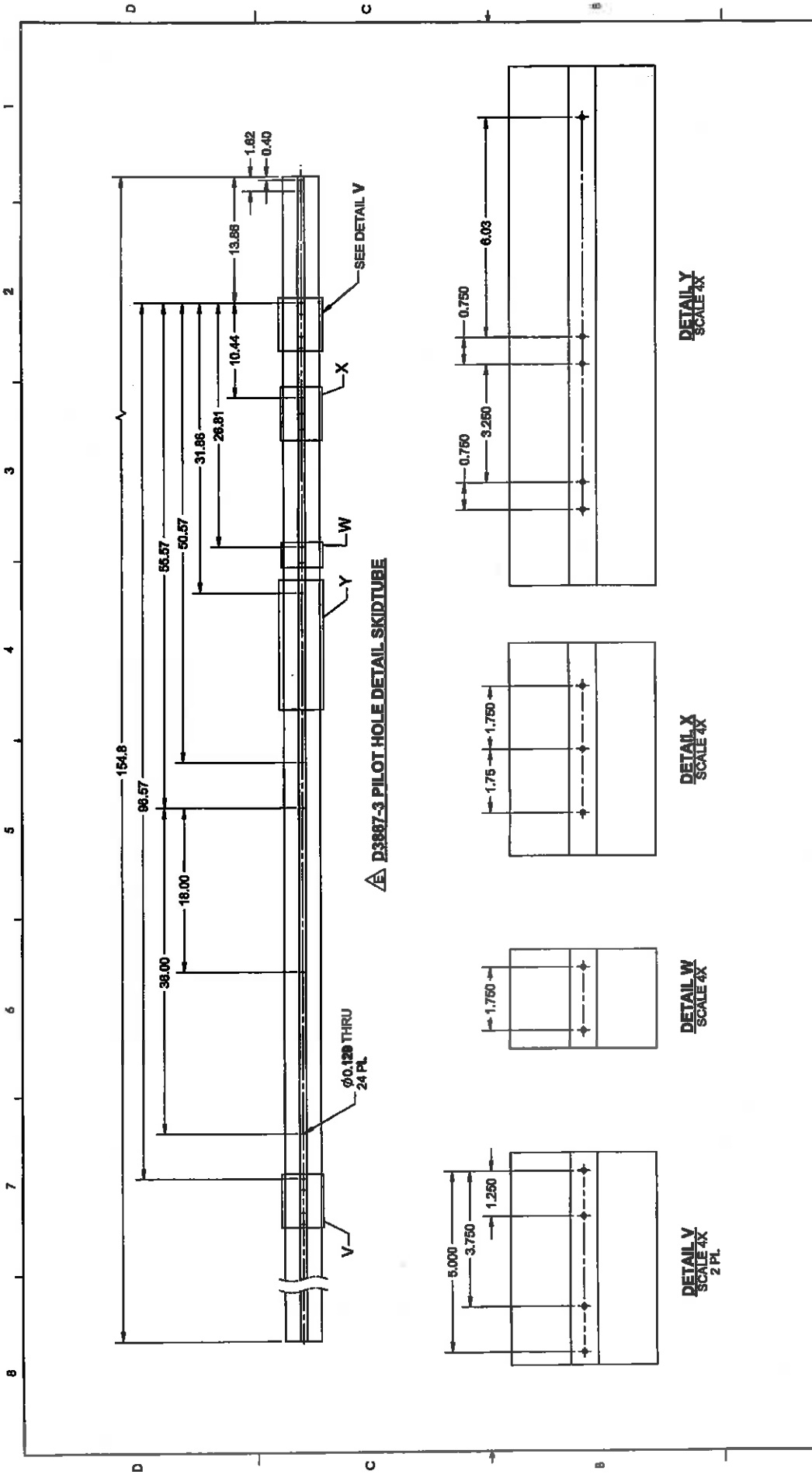


- NOTES:
- 1) MATERIAL: MAKE -1 BEND DETAIL FROM -3 PILOT HOLE DETAIL
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
 - 7) HEIGHT: 1.0
 - 8) TOLERANCE ON FWD BEND: THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

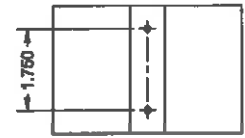
RELEASED
2017-05-08

DESIGN	RF	RF	DART AEROSPACE USA, INC.	REV. E
DRAWN	WK	WK	EUGENE, OR	
CHECKED	RF	RF	D3887	
MFG. APPR.	DD	DD		SHEET 10 OF 11
APPROVED	HS	HS	A119 STD SKIDTUBE ASSY	SCALE
DE APPR.	DS	DS		MT8
DATE	17.02.03			

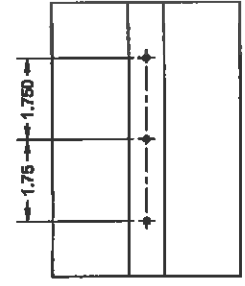
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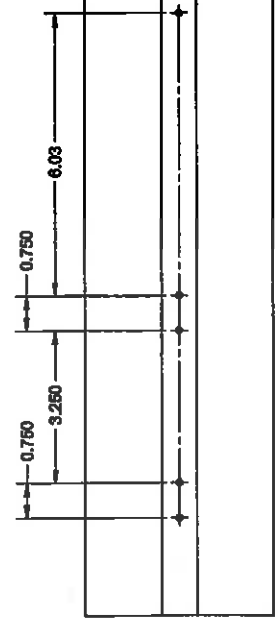
DETAIL V
SCALE 4X
2 PL



DETAIL W
SCALE 4X



DETAIL X
SCALE 4X



DETAIL Y
SCALE 4X

- NOTES:
1) MATERIAL: MAKE FROM D2500-1-190 EXTRUSION
2) FINISH: N/A
3) TOLERANCES: PER DART Q81.018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
7) WEIGHT: N/A

RELEASED
2017-05-08

DESIGN	RF	RF	DART AEROSPACE USA, INC.
DRAWN	WK	WK	EUGENE OR
CHECKED	RF	RF	DRAWING NO. D3887
MFG. APPR.	DD	DD	REV. E
APPROVED	HS	HS	SHEET 11 OF 11
DE APPR.	DE	DE	TITLE A119 STD SKIDTUBE ASSY
DATE 17.02.03			SCALE NTS

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